

# KEYSTONE SYMPOSIA

on Molecular and Cellular Biology

## Mammalian Sensory Systems (C4)

March 15-19, 2019 • Allen Institute • Seattle, WA, USA

Scientific Organizers: Stephen Liberles, David D. Ginty, Jeffrey R. Holt and Melanie Samuel

Sponsored by Allen Institute

Abstract & Scholarship Deadline: November 14, 2018 / Abstract Deadline: December 11, 2018 / Discounted Registration Deadline: January 17, 2019

### FRIDAY, MARCH 15

#### Arrival and Registration

### SATURDAY, MARCH 16

#### Welcome and Keynote Address

**Richard Axel**, Columbia University, USA  
*Central Representations of Odors*

#### Structure and Function of Chemoreceptors

**Emily Liman**, University of Southern California, USA  
*Ion Channels for Sour Taste*

**Xinzhong Dong**, Johns Hopkins University, USA  
*Mrgs in Itch Sensation*

**Paul L. Greer**, UMass Medical School, USA  
*Exteroceptive and Interoceptive Chemosensation by MS4A Receptors*

**Kazushige Touhara**, University of Tokyo, Japan  
*Pheromone Receptors and Behavior*

#### Short Talk(s) Chosen from Abstracts

#### Workshop 1

##### Short Talks Chosen from Abstracts

#### Structure and Function of Mechanoreceptors

**David Julius**, University of California, San Francisco, USA  
*Structure and Function of TRP Channels*

**Ardem Patapoutian**, The Scripps Research Institute, USA  
*Piezo Channels and Mechanosensation*

**Jeffrey R. Holt**, Boston Children's Hospital, USA  
*TMC Channels and Hearing*

#### Short Talk Chosen from Abstracts

#### Poster Session 1

### SUNDAY, MARCH 17

#### Cell Biology of Sensory Neurons

**Lisa T. Stowers**, The Scripps Research Institute, USA  
*Hormonal Control of Pheromone-Sensing Neurons*

**Melanie Samuel**, Baylor College of Medicine, USA  
*Development of the Visual Sensory Neurons*

**David D. Ginty**, HHMI/Harvard Medical School, USA  
*The Functional Organization of Mammalian Touch Neurons*

#### Short Talk(s) Chosen from Abstracts

#### Genetic and Translational Approaches for Sensory Deficits

**Alexander Chesler**, National Institutes of Health, USA  
*Piezo2 Mutations and Human Disease*

**Karen B. Avraham**, Tel Aviv University, Israel  
*Epigenomics of the Auditory System*

**Andrew D. Huberman**, , USA  
*Regeneration and Plasticity of the Visual-Limbic Pathway*

**David Shelton**, , USA  
*Therapeutic Approaches to Chronic Pain*

#### Short Talk Chosen from Abstracts

#### Poster Session 2

### MONDAY, MARCH 18

#### Evolution of Sensory Systems

**Kenneth C. Catania**, Vanderbilt University, USA  
*Diversity of Sensory Systems in Nature*

**Maude Baldwin**, Max Planck Institute for Ornithology, Germany  
*Evolving Sweet Taste Receptors*

**Elena Gracheva**, Yale University, School of Medicine, USA  
*Molecular Adaptations to Unique Lifestyle in Mammalian Hibernators*

#### Short Talk(s) Chosen from Abstracts

#### Early Sensory Processing

**Diana Bautista**, University of California, Berkeley, USA  
*Neuroimmune Mechanisms Driving Changes in Sensory Behaviors*

**Ellen A. Lumpkin**, Columbia University, USA  
*Neural Circuits and Touch*

**Marla Feller**, University of California, Berkeley, USA  
*Organization and Development of Retinal Circuits Mediating Direction Selectivity*

**Fan Wang**, Duke University Medical Center, USA  
*Neural Processing In Touch- and Pain-Guided Behaviors*

#### Short Talk Chosen from Abstracts

#### Poster Session 3

### TUESDAY, MARCH 19

#### Sensory Control of Limbic and Autonomic Systems

**Linda B. Buck**, Fred Hutchinson Cancer Research Center, USA  
*Odor Effects on Stress*

**Catherine C. Dulac**, Harvard University, USA  
*Pheromone Processing in the Limbic System*

**Stephen Liberles**, Harvard Medical School, USA  
*Molecular and Genetic Analysis of the Vagus Nerve*

#### Short Talk(s) Chosen from Abstracts

#### Workshop 2

##### Short Talks Chosen from Abstracts

#### Cortical Processing of Sensory Information

**Stephen D. Roper**, University of Miami, USA  
*The Logic of Salt Taste: Is it Really Logical?*

**Gloria Choi**, Massachusetts Institute of Technology, USA  
*Hormonal Control of the Olfactory Cortex*

**Daniel Feldman**, University of California, Berkeley, USA  
*Coding of Tactile Features in Whisker Somatosensory Cortex*

#### Meeting Wrap-Up: Outcomes and Future Directions (Organizers)

### WEDNESDAY, MARCH 20

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### Departure